

REMARKS

Claims 1-3, 6-14, 20, 21 and 25-27 are pending, with Claims 1, 25 and 27 being in independent form.

Claims 1-3, 6-14, 20, 21 and 25-27 stand rejected in the Action.

Claims 1, 25 and 27 have been amended.

Applicants turn next to the merits of the Action.

Section 102 Rejections:

Claims 1-3, 6-14 and 20-21 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,265,061 ("Kang et al.") for the reasons given at pages 2-3 of the Action;

Claims 25-26 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kang et al. for the reasons given at page 4 of the Action; and

Claim 27 stands rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kang et al. for the reasons given at pages 4-5 of the Action.

Claims 1-3, 6, 9, 11, 13-14 and 20 stand rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by U.S. Patent Application Publication No. 2003/0194549 ("Perrine et al.") for the reasons given at pages 5 of the Action.

Claims 1-3, 6, 9, 11, 13-14 and 20 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Perrine et al. for the reasons given at pages 5-7 of the Action.

Applicants traverse the Section 102 rejections.

As the Examiner is aware, the invention as defined by Claim 1 is directed to a UV curable coating composition, reaction products of which are abrasion resistant. The composition includes:

at least one curable (meth)acrylate;

at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum; and

about 30% to about 50% by weight of the composition of an inorganic filler, at least a portion of which having a particle size in the range of 1 to 1,000 nm. The coating is capable of maintaining about 95% of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825.

And as defined by Claim 25, the invention is directed to a UV curable, abrasion resistant coating composition, comprising: about 30% to about 50% by weight of the composition of a nanospheric colloidal dispersion of silica in a (meth)acrylate matrix; at least one reactive diluent; and at

least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum.

In addition, as defined by Claim 27, the invention is directed to an abrasion resistant coated road reflector, comprising: a road reflector having at least one surface, said surface having a coating thereon which comprises the reaction product of: at least one curable (meth)acrylate; at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum; and about 30% to about 50% by weight of the composition of an inorganic filler dispersed in an organic medium, at least a portion of which having a particle size in the range of 1 to 1,000 nm.

Neither Kang et al. nor Perrine et al. discloses, teaches or suggests the features of the invention defined in these ways.

More specifically, Kang et al. is directed to and claims a retroreflective article, comprising a substrate and a coating provided on at least a portion of a surface of the substrate, the coated portion being retroreflective and the coating comprising a cured ceramer derived from ingredients comprising: (a) free-radically curable binder; (b) colloidal inorganic oxide; and (c) fluoro/silane that comprises a hydrolysable silane moiety and a fluorinated moiety.

Kang et al. does not disclose, teach or suggest a UV curable coating composition, reaction products of which are abrasion resistant, which include about 30% to about 50% by weight of the composition of an inorganic filler, at least a portion of which having a particle size in the range of 1 to 1,000 nm.

And, Perrine et al. is directed to and claims a coating composition comprising: (a) a binder; (b) alumina particles that have been treated with a silane having the formula $(RO)_3SiR'$, where R is an alkyl moiety having 1 to 30 carbons, and R' is an organic moiety that improves the compatibility between the binder and the alumina particles; and (c) silica particles.

Perrine et al. does not disclose, teach or suggest a UV curable coating composition, reaction products of which are abrasion resistant, which include about 30% to about 50% by weight of the composition of an inorganic filler, at least a portion of which having a particle size in the range of 1 to 1,000 nm.

It is well settled that in order to be an effective anticipatory reference, a single document must disclose each and every recitation of a claim under review. Verdegaal Bros., Inc.

v. Union Oil Co., 814 F.2d 628, 631 (Fed. Cir. 1987). See also
Ex Parte Whalen, Appeal 2007-4423, 12-13 (BPAI July 23, 2008).

The Court of Appeals for the Federal Circuit has
recently discussed the requirements of Section 102 anticipation.

"[u]nless a reference discloses within the
four corners of the document not only all
of the limitations claimed but also all of
the limitations arranged or combined in
the same way as recited in the claim, it
cannot be said to prove prior invention of
the thing claimed and, thus, cannot
anticipate under 35 U.S.C. § 102."
Net Moneyin, Inc. v. Verisign, Inc., 545
F.3d 1359, 1371 (Fed. Cir. 2008).

Neither Kang et al. nor Perrine et al. provide:

a UV curable coating composition,
reaction products of which are abrasion resistant,
about 30% to about 50% by weight of the composition of
an inorganic filler,

at least a portion of the inorganic filler having a
particle size in the range of 1 to 1,000 nm, and

where abrasion resistance is measured by maintaining
about 95% of its post-cure glass when subjected to about 100
cycles of grade 3 steel wool with a load of about 50 lbs applied
per Federal Specification FF-W-1825.

Thus, failing such precise disclosure as required for
an effective anticipatory reference, rejections under Section

102 are improper. Here, neither Kang et al. nor Perrine et al. possess such disclosure. The Action therefore has not established a proper Section 102 rejection based on either Kang et al. or Perrine et al. Accordingly, Applicants request reconsideration and withdrawal of the Section 102 rejections based on Kang et al. or Perrine et al.

Section 103 Rejections

Claim 10 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perrine et al., for the reasons given at pages 7-8 of the Action;

Claims 12 and 21 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perrine et al. in further view of U.S. Patent Application Publication No. 2002/0032251 ("Ha et al."), for the reasons given at pages 8-9 of the Action; and

Claim 27 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Perrine et al., for the reasons given at page 9 of the Action.

Applicants traverse these Section 103 rejections.

Perrine et al. is discussed and constated above.

Ha et al. is directed to a radiation-curable adhesive composition for bonding digital versatile disc components. The composition includes the following premixed ingredients:

(A) about 5 wt. % to about 80 wt. % of at least one radiation-curable acrylate oligomer;

(B) about 1 wt. % to about 20 wt. % of at least one non-acrylate functional reactive diluent;

(C) about 10 wt. % to about 80 wt. % of at least one acrylate functional reactive diluent;

(D) about 0.5 wt. % to about 10 wt. % of at least one radical forming sulphur compound; and

(E) optionally about 0.1 wt. % to about 15 wt. % of one or more photoinitiators.

In one aspect, the present invention as defined by Claim 10 is directed to a UV curable coating composition, reaction products of which are abrasion resistant. The composition includes:

at least one curable (meth)acrylate;

at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum; and

about 30% to about 50% by weight of the composition of an inorganic filler dispersed in an organic medium, at least a portion of which having a particle size in the range of 1 to

1,000 nm, where the reaction products in the form of a coating are capable of maintaining about 95% of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825.

In this aspect, the inorganic filler comprises silica particles which are spherical, non-porous, amorphous, non-agglomerated and monodispersed. The silica particles have a particle size in the range of about 10 nm to about 50 nm and are present in an amount of about 30% to about 50% by weight of the composition.

In another aspect, the present invention as defined by Claim 12 is directed to a UV curable coating composition, reaction products of which are abrasion resistant. The composition includes:

at least one curable (meth)acrylate;

N,N-dimethyl acrylamide as a reactive diluent;

at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum; and

about 30% to about 50% by weight of the composition of an inorganic filler dispersed in an organic medium, at least a portion of which having a particle size in the range of 1 to 1,000 nm, where the reaction products in the form of a coating are capable of maintaining about 95% of its post-cure gloss when

subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825.

In still another aspect, the present invention as defined by Claim 21 is directed to a UV curable coating composition, reaction products of which are abrasion resistant. The composition includes:

at least one curable (meth)acrylate;

N,N-dimethyl acrylamide as a reactive diluent;

at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum; and

about 30% to about 50% by weight of the composition of an inorganic filler dispersed in an organic medium, at least a portion of which having a particle size in the range of 1 to 1,000 nm, where the reaction products in the form of a coating are capable of maintaining about 95% of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825, where the at least one curable (meth)acrylate comprises trimethylolpropane triacrylate present in an amount between about 5% and about 85% by weight of said composition; and the N,N-dimethyl acrylamide is present in an amount between about 1% and about 30% by weight of the composition.

Neither Perrine et al. nor Ha et al., either alone or individually, disclose, teach or suggest the inventions as so defined in these aspects.

Only Applicants that provide a composition with such an inorganic filler dispersed in an organic medium, at least a portion of which having a particle size in the range of 1 to 1,000 nm, and whose reaction products confer the physical properties of maintaining about 95% of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825.

Under Section 103, to establish a prima facie case of obviousness, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. KSR International Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741 (2007). Moreover, the cited documents must disclose, teach or suggest all of the recitations of the claims under review. If more than one document is combined together to form a reception under Section 103, which is the case here, the reason to make the claimed combination, and a reasonable expectation of success, must be found elsewhere than in Applicant's own disclosure, such as in the cited documents of record, the nature of the problem to be solved, or

in the knowledge/understanding of the person of ordinary skill in the art. MPEP § 2143; In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991). The instant Section 103 rejections do not meet these requirements.

KSR informs us that the teaching, suggestion or motivation referred to above must be applied in a flexible manner when examining claims submitted for review and allowance. However, KSR states that an invention "composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." Id. at 1741.

Accordingly, reconsideration and withdrawal of the Section 103 rejections based on Perrine et al., with and without Ha et al., are requested.

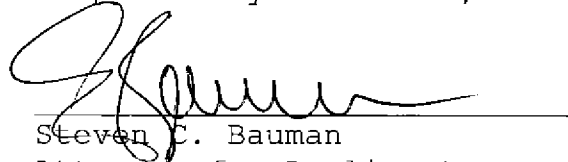
Based on the above, Applicant submits that the pending claims distinguish patentability from Kang et al., Perrine et al. and Ha et al., whether individually or collectively.

Having addressed each of the objection and the rejections set forth in the Action, Applicants submit that the application is now in condition for allowance. Accordingly, Applicants respectfully requests that the next communication issued by the Patent and Trademark Office in this application be a Notice of Allowance.

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Applicants' undersigned attorney may be reached by
telephone at 860.571.5001, by facsimile at 860.571.5028 or by
email at steve.bauman@us.henkel.com. All correspondence should
be directed to the address given below.

Respectfully submitted,



Steven C. Bauman
Attorney for Applicants
Registration No. 33,832

HENKEL CORPORATION
Legal Department
One Henkel Way
Rocky Hill, Connecticut 06067
Customer No. 31217